Claims

1. A cellular radio telecommunications network, in which physical channels may be reused in the same cell, reused channels on the up link being differentiated by a time shift between them.

2. A network as claimed in claim 1, wherein the reused channels use a common clock signal.

3. A network as claimed in claim 1 or 2, in which timing advance information for each base station reusing a channel is transmitted on the down link.

4. A network as claimed in claim 1 or 2, wherein the reused channels all use the same signature.

5. A network as claimed in claim 1 or 2, including a master base station and a co-located slave base station, wherein the master base station generates a common reference clock and the slave base station uses a shifted reference clock to send time shift information to the mobiles.

Sub 91

6. A network as claimed in claim 1 or 2, a base station having two receivers operating with mutually shifted time references.

7. A network as claimed in claim 1 or 2, wherein the time shift is longer than the propagation delay in the reused channels.

8. A network as claimed in claim 1 or 2, wherein the time shift is approximately equal to the guard interval.

9. A method of operation a cellular radio telecommunications network, in which physical channels may be reused in the same cell, reused channels on the up link being differentiated by a time shift between them.

10. A method as claimed in claim 9, wherein the reused channels use a common clock signal.

11. A network as claimed in claim 9 or 10, in which timing advance information for each base station reusing a channel is transmitted on the down link.

12. A network as claimed in claim 9 or 10, wherein the reused channels all use the same signature.

13. A method as claimed in claim 12, wherein a master base station generates a common reference clock and a co-located slave base station uses a shifted reference clock to send time shift information to the mobiles.

14. A method as claimed in claim 13 wherein two receivers at a base station operate with mutually shifted time references.

15. A method as claimed in claim 9 or 10, wherein the time shift is longer than the propagation delay in the reused channels.

16. A method as claimed in claim 9 or 10, wherein the time shift is approximately equal to the guard interval.

17. A protocol for carrying out all the steps of the method of any of claims 9 or 10.

18. A computer program for carrying out all the steps of the method of any of claims 9 or 10.